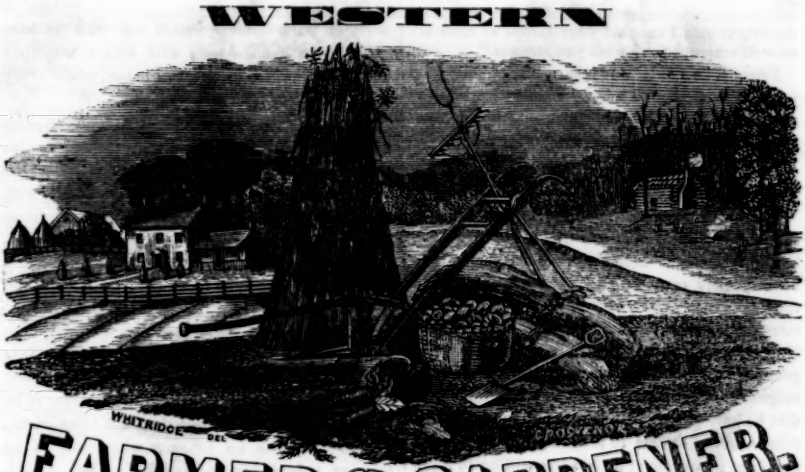

Vol. II. INDIANAPOLIS, Ia., FEBRUARY 16, 1846. No. 4.

EDITED BY
HENRY WARD BEECHER, Indianapolis,
EDWARD J. HOOPER, Cincinnati, Ohio.

S. V. B. NOEL, *Publisher and Printer.*

WESTERN FARMER AND GARDENER.

INDIANAPOLIS, MONDAY, FEBRUARY 16, 1846.

☞ This number will be particularly valuable to all flax-growers, and to such as which to raise it. Much editorial matter has been excluded to give room to the two articles on flax.

☞ With the exception of a few post-offices, the *plate* belonging to the 3d number was, by a misunderstanding, not sent. It is forwarded in the fourth number.

HELP ON THE WORK.

It is not because the editor wishes to derive a support from the Farmer and Gardener that he desires to enlarge its circulation. There would even for that reason be no impropriety. But he obtains a sufficient livelihood from other exertions than the labor of conducting this paper—a work of love. An unfeigned desire to promote intelligence among the laboring classes; a strong sympathy with their pursuits; the hope of advancing the cause of popular education, these are his reasons for laboring in the vocation of an editor.

If in the judgment of the readers of the Farmer and Gardener it is calculated to answer such ends, it is desirable that they should make active efforts to extend its circulation.

The price is very low; so low that we cannot afford agencies. It was put so low to induce those to subscribe who are not accustomed to read agricultural papers. For the most part, the Farmer and Gardener will depend, for its circulation, on the kindness and exertions of the friends of education, intelligent agriculture, and public improvement. At the low price of fifty cents we ought to have 10,000 subscribers, and, by a little prompt effort, we might have.

A friend writes:

"I do think fifty copies of the Farmer and Gardener, in the hands of as many farmers in this county, would add to the value of each man's farm fifty dollars annually, if information would make its appropriate impression on the human mind, besides the useful notions that the wife and daughters would pick up in regard to their household and culinary duties." W.

A clergyman, whose ardent labors have made it necessary for him to recruit his health by laboring for a time upon a farm, writes:

"*Dear brother*—I am much interested in your Farmer and Gardener, and wish that it might be circulated in every family in the State. It is read by every body, the old and young, men, women, and children, and I cannot but think that it will be one of the most powerful levers in *raising up the masses* to that condition of intellectual development so necessary for the happiness of a free agricultural community. You have the ear of the farmers, their wives, their sons and daughters.

And right glad I am that your scraps of time are so well employed. I wish you success."

Friends, do not let our labor for the public good go unbefriended. We will exert ourselves to make the Farmer and Gardener worth reading; will *you* exert yourselves to procure readers for it?

BOOK FARMING, AND A PORTRAIT.

Whenever our anti-book-farmers can shew us better crops at a less expense, better flocks, and better farms, and better owners on them, than book-farmers can, we shall become converts to their doctrines. But, as yet, we cannot see how *intelligence*, in a farmer, should injure his crops. Nor what difference it makes whether a farmer gets his ideas from a sheet of paper, or from a neighbor's mouth, or from his own experience, so that he only gets good, practical, sound ideas. A farmer never objects to receive *political* information from newspapers; he is quite willing to learn the state of markets from newspapers; and as willing to gain religious notions from reading, and historical knowledge, and all sorts of information except that which relates to his business. He will go over and hear a neighbor tell how he prepares his wheat lands, how he selects and puts in his seed; how he deals with his grounds in spring, in harvest and after harvest-time; but if that neighbor should write it all down carefully and put it into a paper, it's all poison! it's *book-farming!*

"Strange such a difference there should be
"'Twixt tweedledum, and tweedledee."

If I raise a head of lettuce surpassing all that has been seen hereabouts, every good farmer that loves a salad would send for a little seed, and ask as he took it; "how do you contrive to raise such monstrous heads? you must have some secret about it?" But if my way were written down and printed, he would not touch it. "Poh, it's bookish!"

Now let us enquire, in what States land is the best managed; yields the most with the least cost; where are the best sheep, the best cattle, the best hogs, the best wheat? It will be found to be in those States having the most agricultural societies and the most widely disseminated agricultural papers.

What is there in agriculture that requires a man to be ignorant, if he will be skillful? Or why may every other class of men learn by reading except the farmer? Mechanics have their journals; commercial men have their papers; religious men, theirs; politicians, theirs; there are magazines and journals for the arts, for science, for education, and *why not for that grand pursuit on which all these stand?* We really, could never understand why farmers should not wish to have their vocation on a level with others; why they should feel proud to have *no* paper, while every other pursuit is fond of *having* one!

Those who are prejudiced against book-farming are, either good farmers, misinformed of the design of agricultural papers; or poor farmers who only treat this subject as they do all others, with blundering ignorance. First, the good farmers; there are in every county many industrious, hard-working men, who know that they cannot afford to risk anything upon wild experiments. They have a growing family to support, taxes to pay; lands, perhaps, on which purchase money is due; or they are straining every nerve to make their crops build a barn, that the barn may hold their crops. They suppose an agricultural paper to be stuffed full of wild fancies, expensive experiments, big stories made up by men who know of no farming except parlor-farming. They would, doubtlessly, be surprised to learn that ninety-nine parts in a hundred of the contents of agricultural papers are written by *hard-working practical farmers!* that the editor's business is not to foist absurd stories upon credulous readers; but, to sift stories, to scrutinize accounts, to obtain whatever has been abundantly proved to be fact, and to reject all that is suspected to be mere fanciful theory. Such papers are designed to prevent imposition; to kill off pretenders by exposing them; to search out from practical men whatever they have found out and to publish it for the benefit of their brethren all over the Union; to spread before the laboring classes such sound, well approved scientific knowledge as shall throw light upon every operation of the farm, the orchard, and the garden.

The other class who rail at book-farming ought to be excused, for they do not treat book-farming any worse than they do their own farming; indeed not half so bad. They rate the paper with their tongue; but cruelly abuse their ground, for twelve months in the year, with both hands. I will draw the portrait of a genuine anti-book farmer of this last sort.

He plows three inches deep, lest he should turn up the poison that, in his estimation, lies below; his wheat land is plowed so as to keep as much water on it as possible; he sows two bushels to the aker and reaps ten, so that it takes a fifth of his crop to seed his ground; his corn-land had never any help from him, but bears just what it pleases; which is from thirty to thirty-five bushels, by measurement; though he brags that it is fifty or sixty. His hogs, if not remarkable for fattening qualities, would beat old Eclipse at a quarter-race; and were the man not prejudiced against deep

plowing, his hogs would work his grounds better with their prodigious snouts than he does with his jack-knife-plow. His meadow lands yield him from three quarters of a ton, to a whole ton of hay; which is regularly spoiled, in curing; regularly left out for a month, very irregularly stacked up, and left for the cattle to pull out at their pleasure and half eat and half trample underfoot. His horses would excite the avarice of an anatomist in search of osteological specimens; and returning from their range of pasture they are walking herbariums, bearing specimens in their mane and tail of every weed that bears a burr or cockle. But oh, the cows! If held up in a bright day to the sun, don't you think they would be semi-transparent? But he tells us that good milkers are always poor! His cows get what Providence sends them, and very little besides, except in winter; then they have a half-peck of corn on ears a foot long thrown to them, and they afford lively spectacles of animated corn and cob crushers; never mind, they yield, on an average, three quarts of milk a-day! and that milk yields varieties of butter quite astonishing.

His farm never grows any better; in many respects it gets annually worse. After ten years' work on a good soil, while his neighbors have grown rich, he is just where he started, only his house is dirtier, his fences more tottering, his soil poorer, his pride and his ignorance greater. And when, at last, he sells out to a Pennsylvanian that reads the Farmer's Cabinet, or to some New Yorker with his Cultivator packed up carefully as if it were gold, or to a Yankee with his New England Farmer, he goes off to Missouri, thanking Heaven that *he's* not a book-farmer!

Back Volumes of the Western Farmer and Gardener.—We have received from Mr. Hooper several sets of this work in five volumes, substantially bound, at one dollar a volume. The same information embodied in these volumes upon fruit, stock, and particularly upon the important matter of *hogs*, cannot, we believe, be obtained in any other quarter. They would be invaluable in a farmer's library. A farmer who had in his library complete sets of the Albany Cultivator, the American Agriculturist, the Prairie Farmer, and the Western Farmer and Gardener, would have an Encyclopedia of Rural Affairs more valuable than has ever been put together.

Guano in England.—During the year, from July 1844 to July 1845, there were imported into Great Britain, 137,300 tons of Guano, at a cost of £1,247,60, which our young readers may reduce to dollars, reckoning four dollars and eighty-seven cents to the pound sterling. Six years ago the British farmer did not spend one cent for this kind of manure. In Great Britain, agriculture is becoming both a science and a commerce. To provide a single article for the soil employs hundreds of ships.

ENQUIRIES.

There are many questions sent to us which we should promptly answer ourselves, did we not believe that many of our readers have had much greater practical knowledge than we have; and we hope that whoever has the desired information will promptly send it forward.

1. Chickens.—"Is a lot four rods by eight, of a proper size for raising poultry? In what manner should the house and bins be constructed? How much stock ought I to begin with, and of what kinds?" H.

2. Sheep.—"Can you, or can any of your correspondents give me information on the following points:

(1.) I wish to supply my farm with a moderate flock of sheep. I know little about the improved breeds except the names—Southdown, Merino, Saxon, &c. Which ought a man to procure where wool is the object?

(2.) Where should I buy, probably, to the best advantage? Are there good flocks near Cincinnati? Is it best to get pure blood, or will grade sheep answer for fine wool?

(3.) If some one who has made it a business to keep sheep would give their method somewhat in detail, it would be of great help to a

Feb. 5, '46. A Beginner.

TAKE CARE OF YOUR SHOES.

At the breaking up of winter, you will need good sound shoes or boots, more, even, than in winter. We have used the following mixture, and think it better for making water-proof shoes than any other. We also give the price of the material, just as we obtained them at Craighead's Drug Store:

1 pint boiled Linseed oil, - - - -	.15
2 oz. beeswax, - - - - - -	.04
1 " rosin, - - - - - -	.04
1 " Oil of turpentine, - - - -	.06
	.29

Two ounces of copal varnish would give this mixture some lustre, and cost six cents. Cover the soals, seams, and upper leather with it, when well melted together; dry it in by a fire and cover again, until the leather is filled. Your boots will last longer, the leather will be soft and impervious to water.

SPIRIT OF AGRICULTURAL JOURNALS.

Nursery of M. Jamin, at Paris.—This is the most extensive collection of fruit trees in and round the city. It comprises about two acres, and is filled in part with specimens of pear trees paired *en quenouille*, in full bearing, about six to ten feet high, forming a *school* of fruit trees, every new variety being planted as obtained; so that their merits may be studied, and those of superior quality made known and multiplied.—*Hovey's Mag.*

Quenouitte or pyramidal form.—This is almost universal about Paris. On account of their taking up so little space, a collection of two or three hundred kinds may be cultivated on a small piece of ground. They are planted about six feet apart, and being pruned in, they do not make shade enough to injure anything near them. They are only adapted, however, for garden culture. Mr. Jamin's *catalogue* contains 300 varieties of pears; fifty of plums, thirty of cherries. He has a large collection of specimens in wax. He has a pear, the Bonne des Zes, which comes in before, and is superior to Williams' Bonchretien, (Bartlett.) The borders between the trees were filled with the monthly Alpine strawberry, bearing an abundance of fruit, (Sept.) The shade of the trees seemed favorable to their growth. Mr. Hovey says he is confident this variety can be made to bear equally as freely in our climate, if a proper situation is selected.

Mr. Forture, in his expedition to Canton, has met with many beautiful shrubs, and it is hoped that many of them will prove hardy, or nearly so. Viburnums, with heads of large flowers, like a hydrangea; moutans, in great variety, peaches, apricots, roses, handsome creepers, azaleas, daphnes, both sorts of the curious hexangular camellia, a great desideratum, for it must be the most beautiful of the varieties; others from Fokien: hydrangeas, a very fine double white Gardenia, with flowers as large as a camellia; a curious chrysanthemum, named as a perfect gem; new pines, honeysuckles and plums, are among the rarities mentioned as being actually on their way to England.

How Plants receive their Carbon.—Carbonic acid gas is taken up by plants in two ways. The leaves, and indeed all the green parts, absorb it directly from the atmosphere; and it is absorbed also by the roots, dissolved in the rain and dew which have refreshed the ground.—*American Agricult.*

How to manage a Stud-horse.—I know a stud-horse in my neighborhood, which is led out of the stable by the bit, the reign passing from the right side under the jaw, through the ring of the left side. The horse takes his groom at ease where he pleases, and as fast as he pleases, till he reaches the point desired. I know another stud horse which was equally unmanageable till the following mode was adopted. The rein passes from the ring of the right side of the bit, up the right side of the head, and over it behind the ears, then down the left side through the ring of the left side of the bit, which gives a purchase upon the mouth that cannot be resisted; the groom thus manages him with the greatest ease. Try it.—*Ib.*

In-and-in-Breeding.—It is recommended that in-and-in-breeding among all animals be carried no farther than *one* generation; that is, the sire may be put to his own daughter, and the son to his own dam, for one generation only, not to be continued to grand-son or grand-daughter unless under the circumstances I have alluded to above. Brother and sister is considered *closer* breeding than sire to daughter, or son to mother, and of course, not so much practiced among scientific breeders. In merely raising common cattle, this subject is little thought of, and the plan need not be practiced; but it has been by in-and-in-breeding that the finest animals in the world, and the celebrated "improved" domestic stock of all sorts have been produced; and to do so with success is a new and most scientific course of procedure, which with our helter-skelter American notions, our farmers will be slow to adopt.—*Ib.*

To make Fruit Trees Thrifty.—In the month of March, wash them as high as a man can reach with one quart of whale oil soap diluted in fifteen gallons of water, and if in April there are catterpillars, give them another dose; then put round the roots of the apple and pear trees two or three shovelsful of charcoal dust or anthracite ashes; to the peach, plum, and nectarine trees I have tried various experiments, yet have hitherto been most pleased with tobacco stems. Half a peck of stems round each tree is sufficient. They are very cheap. The roots of the tree are first laid bare; the tobacco is then placed over them and covered with soil. To this, three or four shovelsful of anthracite ashes may be added with advantage. The past spring I have tried on all, save peach and nectarine trees, which were so diseased by worms that I ordered them cut up—an application of warm (not *hot*) coal-tar from the gas house. We first removed the earth from the roots, picked out the worms, and then with a painter's brush covered the trunk of the tree eight inches up from the roots. After this the soil was immediately replaced around the tree. The effect was astonishing. In May we applied half a pint of guano as a top-dressing to each tree, and thriftier trees, fuller of fruit, and with a deeper, richer

green foliage, cannot be seen. I mean to treat all my peaches in this way, (Mr. G. Hill is doing so near Cincinnati, and thinks very well of the experiment so far) as the cheapest and best manner of protecting them. Two peach trees I gave up last fall as past all hope of saving. On these I tried an experiment of putting to each fifteen gallons of urine, neutralized with a peck of plaster of Paris. The trees are now living and the leaves are green, but whether they will revive remains to be seen. I think, however, the dose will effect a cure.—*Ib.* *K. L. Colt, Paterson, N. Y.*

Gapes in Chickens.—J. H. D. Lownes writes in the *Southern Planter*, as follows: My residence was proverbial for gapes; but by mixing the dough with chamberley and baking the bread, it is banished. A teaspoonful of urine given to a chick in the first stage of the gapes, will cure it; but begin with it, and they will never have it with good care.

Level Cultivation of Corn.—This must be done, or not, according to the soil. For any land sufficiently dry and warm to be suitable for Indian corn, a level cultivation is best. It suits hill-land, for instance, but where the land tends to pack too heavy, as it will if there is too much clay in it, as in the rich river bottoms and low lands of the west, some tool must be used that will loosen and pulverize it, or the roots of the corn will be cramped and the tops stunted. A narrow shovel-plow, or a tool like a coulter, is best for compact soils. A light harrow and cultivator, will be found sufficient on light soils.—*Alb. Cult.*

Windgall.—Windgalls are little swellings just above the fetlock joints of all the legs; they seem, when felt, to be full of wind or jelly; but they never lame a horse; the splint or spavin always do. They all three proceed from one and the same cause, which is hard riding, travelling too far in one day, or carrying too great a weight when young.—*Ayrshire Agriculturist.*

One of the finest new Dahlias is the Beauty of England, purple tipped with white; every flower distinctly marked. This is what is called a *fancy* sort, which are greatly admired and extensively cultivated in and about Paris, says Mr. Hovey, who travelled there last spring.

Mr. H. says the new Phloxes and other more rare herbaceous plants, are all cultivated in Paris in small pots, and plunged into the ground under a north fence, wall, or hedge. This method allows their sale at all seasons of the year, and with the certainty of living. We would recommend the adoption of this plan by our nursery-men. There is even greater necessity for it than in France or England, where the most remote parts of each country, are not one quarter the distance of our own; and consequently there is less danger from transportation than with us. The difference in the loss of plants taken out of the ground, or growing in small pots, is at least one-half greater in the former manner. Besides, when growing in pots, they can be sent away any month in the year; this is important when orders for the west must be put up and sent off late in the fall or early in the spring, before vegetation commences in the open air.

The splendid rose La Reine, produces immensely large, highly fragrant, and superbly cupped flowers, very freely. This, certainly, is one of the greatest triumphs in the production of seedling roses, and it will be no easy task to raise a *perpetual* rose that will excel it.—*Hovey's Mag.*

E. J. H.

SWAAR APPLE.

A correspondent asks:

"By the way, how is it that you did not even mention the far-famed Swaar apple in your list? It is the finest fruit of its season I ever saw, by a considerable." F. H. P.

Wiskonsan.

This apple has fruited in central Indiana, and proving quite flavorless, our nurserymen have been rather inclined to think that it will not do with us. But the reason is plain. Downing says "it does not succeed well in damp or cold soils," and again "it requires a deep, rich, sandy loam to bring it to perfection." Now we believe that Mr. Ragan's nursery and ochard soil (Greencastle, Putnam county, Indiana,) is a strong clay, or clay loam; and we know that this is the case with Mr. Alldredge's soil, in this place. It is an apple which would flourish finely on high, warm, rich, sandy loams—the poplar and hickory lands; but it would not meet expectation on clay soils.

COMMUNICATIONS.

REVIEW OF VOLUME ONE, NO. 3.

Whoever reads these scrap observations, will please to keep the original idea before him, that the numbers of the first volume are spread upon the table for re-examination, and are to be read in connection with our chattings; otherwise, much of what we say, will scarcely be duly understood. This cause has two material advantages: it saves much quotation in these "reviews" from the articles commented on; and it secures to the articles themselves, a re-perusal, which cannot hurt the Farmer and Gardener, nor injure the intellects of the reader.

Sugar-making, p. 41.—Has any one ever made experiments to ascertain the effects of deep or shallow boring, upon the flow of water? We know water will issue from the tree in considerable quantity if the albumen be merely wounded;

but whether the exudation is in exact proportion to the depth penetrated (or the number of capillary tubes opened by the auger,) is perhaps not satisfactorily determined. There is much for the curious to learn, in the whole matter of sugar-making; from the tapping of the tree to the "stirring-off" of the sugar. The following memoranda from my note-book may possess some interest to the reader. The observations were made in 3 mo. 15th, 1841. "Windy. Thermometer at 34° against the shady side of a tree. Trees partially exposed to the sun. Holes bored two weeks ago. Sugar-water dropped* as follows.

1 tree,	tapped	N. W.	side,	20	drops in	a minute.
2 "	"	N.	"	35	"	"
3 "	"	E.	"	32	"	"
4 "	"	W.	"	60	"	" †
5 "	"	S. W.	"	32	"	"
6 "	"	N.	"	44	"	" ‡
7 "	"	N.	"	24	"	"
8 "	"	N. W.	"	44	"	"
9 "	"	N.	"	54	"	"

It had not dropped faster a few hours before at 44°. Ground to-day wet from the melting of recent snows." Four days afterward the subjoined table was added: "Temperature at noon and till 4 o'clock P. M. 53°–54°, clear and calm. Ground wet. Snow in shaded places. Trees the same as above. No. 4, in the foregoing table, furnished ninety drops to-day; and No. 1, thirty-two drops: two trees, thirty-two drops: trees small. A small tree fiity-four. Two large ones tapped, one on the north, the other on the west side, each twenty-two drops. A small one, north-west, twenty-eight. Large one north-west, seventeen. Large one, north-east, twelve. Large, north-west, twenty. Tree tapped, south-west, sixty-two. Another dropped forty-four times; a large one, ninety times; another large one seventy times; a small one eighty-four times; and a large one just the same (eighty-four.) The trees that dropped fifty-four and ninety stood side by side, were similarly tapped and equally exposed to the sun."

Who will make some *careful* experiments this season to fix the proper depth for boring? One writer tells us to penetrate to the heart; another, one inch; another, two inches, &c.; while the "Farmers' Encyclopedia" tells us to take care "that the augers do not enter more than *half an inch* within the wood, as *experience* has shown the most abundant flow of sap to take place at this depth." Water will often issue from the south side of a tree, while the north side will yield none.

Shallow, sheet-iron pans are the most suitable vessels for evaporation, in every respect.

Why is it, that at Indianapolis, maple sugar should bear a lower price than Orleans' sugar; while here, seventy miles further east, it should invariably command a *higher* price by half to one and two cents on the pound? Maple molasses of good quality is also generally rated, and readily sold at twenty-five or fifty per cent. higher than common cane molasses. Is the difference between the Indianapolis and Richmond market owing to the *quality* of our sugars, or to the relative *abundance* in the two markets? or is it attributable to the difference of *tastes* of the two communities?

If vinegar and sand *are* used to scour the kettles with, care should be taken to procure sand as free from calcareous matter as possible; as much of our western sand contains lime enough to neutralize and render inert a large portion of Vinegar. If when mixed with vinegar, it effervesces lime is probably present; but this may be dissolved in the vinegar and washed out, so as to leave a purified, sharp sand, with which fresh vinegar may be mixed for use.

Dr. Jackson recommends *sheet-iron* cones for loaf sugar; the editor, unglazed and pointed *earthen* ones, and reminds us of their cheapness. With due deference to both authorities, I would propose in the one case, *un*painted or *glazed* vessels; the lead in the glazing being less easily separated than the lead in the paint; and the cones being more readily kept clean. I would query also, whether, in a series of years, earthen cones would prove any cheaper than metallic ones, on account of their frangibility: and in the case of *iron* cones, instead of painting them with white lead, I would give them a smoother, cheaper, more durable and perfectly innocuous coat of varnish, by heating them nearly to redness, and immersing them in flaxseed oil.

I would fain say nothing of that little paragraph, (the third on page forty-three,) if it was not, that some readers might not give it elbow-room enough to explain itself; but might take it at its word, as literally orthodox.

Oats, p. 66.—The relative values of hay, and wheat, and oat straw, are still undetermined; some estimating wheat straw more highly than oat straw. Northern oats are much heavier, and the crops much larger, than southern: South Carolina reports seven or eight bushels "on high land improved," to the aker; but that *some* lands yield fifteen to twenty bushels: the North reports, that some of *its* lands yield ninety-one bushels from two sown; some ninety-seven from two and a fourth sown; some 102, 113, 127, 128, and 130 bushels per aker. I think most of these and other large crops have been obtained after corn and potatoes which had been well manured. The *Agriculturist* need *not* be "astonished" that more oats are not raised at the south and west: farmers everywhere aim to raise whatever they find to be most profitable. A New York farmer tells us the expenses of his corn are thirty-four dollars, and nett profits forty-six dollars; a farmer in Mississippi presents a different picture; his corn costs him fifty-six dollars, and a clear profit of fourteen dollars, while his oats cost thirteen dollars, and yield a clear gain of twenty-one dollars; and a Vermonter's oats afford a nett profit of thirty-three dollars;—and so elsewhere. Is there any difficulty in deciding in such cases, where the oats and where the corn will be raised? On a mossy soil in Scotland, slightly manured, some potato-oats tillered so that one seed produced thirty-one vigorous stalks and 4000 grains; another seed twenty-five stalks and 3200 seeds: the *expected* crop, 200

* DROPPED, *not* RAN. *I have seen among other pictures of sugar-making, a drawing in a creditable magazine, of a sugar-tree (which in print closely resembled a sycamore) with water issuing so forcibly from the huge spout as to form a parabolic curve. A large tub was under it; and another close by ready to slip into its place, the moment the first should become filled.*

† *Tree large.* ‡ *Tree large.*

bushels to the aker. Many years ago, in Henry county, I saw fields of luxuriant Poland oats: their product was, estimated at one-sixth more than that of the spreading or common oat: why are they not more generally cultivated?

The Corn Crop, p. 66.—Much high authority condemns the cultivation of corn with the plow; and yet a Kentuckian plows until "plowing is no longer possible," and raises 195 bushels of corn on an aker. Many of the rules of agriculture, are properly as variable as the rules of society: the chamelion was exclusively neither blue nor green, nor black nor white; but one or the other, according to circumstances.

Preparation of Salt for Butter, p. 71.—I know not whence this article was extracted; but I think the writer errs, in stating *nitrate of soda* to be (impliedly) a common impurity of salt. It is rarely, if ever, found in mineral waters; and even if it did exist in the saline waters, carbonate of soda would not precipitate it; indeed *no* reagent, I believe, will precipitate the acids of the nitrates: they form soluble compounds with all alkaline bases. If the "farmer's wife" should incautiously add too much "muriatic acid," it would act on her iron kettle, and it may be, dissolve metal enough to discolor her salt, and give it a nauseous, styptic taste. Nor will she mend the matter by using a *copper* vessel. After the second boiling, the brine should be allowed to rest until all the earthy matter subsides; and then carefully decanted; and strained, *if necessary*. If, after this, the acid be added with the proper care, and the subsequent directions be observed, as pure a salt will be obtained, as perhaps any domestic process will require.

Rhubarb, p. 75.—In 1840, I planted, (on a shovelful of manure thrown into the hole,) a few slices of the root of Rhèum rhapónticum: they grew luxuriantly; but for three years showed no disposition to form a peduncle. In 1843, nearly all the rhubarb in town bloomed; and perhaps one-fourth per cent. of the flowers, perfected seed. The spring being "late," there was a disposition to ascribe this general flowering to that cause; but the spring of 1844 opened very early, and the pie-plants blossomed profusely. In 1845, I dug up, for distribution, &c., about a *bushel* of roots which had grown from one slice.

Asparagus, p. 80.—Here is a statement that corroborates my own experience, that salt may be so applied as to destroy the asparagus. Perhaps it was not an "overdose" of salt that killed the plant. See the current volume of the Farmer and Gardener, p. 31, *Asparagus*.

LETTERS OF A COSMOPOLITE---No. 2.

COLUMBUS, Jan. 26, 1846.

Editors Farm. and Gard:—Next after the honorable legislature, the visitor in Columbus goes to see the State Asylum; and with all due respect to our rulers be it said, that even crazy people can do more for the edification of strangers, than the wise law-makers of Ohio, whether it be in the way of instruction or recreation. For a crazy man and a true philosopher are by no means at opposite extremes of the scale of intellect.

Well, we went out about a mile from the city, eastwardly, and found an immense building, which I will describe as the disciples of Mesmer are wont to do, as "something very long, and very high, with pillars and windows" enclosing a square of about 250 feet on each side. The east wing is not yet finished, and the west, is full almost to overflowing. It is a noble-looking building for a noble purpose.

Accompanied by one of the physicians, we visited range after range of rooms, all alive with sober, well-behaved crazy people. We saw the handsome parlor where they hold their bi-weekly soirees—the well-stocked library whence they draw books weekly—the large rooms where they exercise—the long halls where they happily associate, and the tidy, cheerful little bedrooms where they sleep. And of all the clean, cheerful, happy places for unfortunate men to live in, this asylum is the cleanest, the brightest and happiest place my eye ever rested on. Such smooth, polished floors, kept so by the patients themselves. Such white walls, and such sweet and clean beds are to be found seldom, unless under the dominion of the queen of Quaker neatness.

The patients are kept thus quiet and inoffensive by the effect of medicine, diet, and kind treatment. A course which seems to relieve the mind and body, so as to allow nature to put in a reforming hand. Cheerful company they afford to each other—playing ball, reading, speaking, and playing tricks. Few, very few, is it found necessary to confine, and these generally only for a short time. The only discipline found necessary is a solitary hour in their bed-rooms, or a *douse* in the shower-bath now and then when at all refractory.

All grades are to be found here, from the idiot up to the almost restored and grateful patient. All fanciful conceits are here embodied and acted upon. One writes unknown characters in the air, another sees angels and spirits and converses with them; one claims divinityship; another less lofty in pretensions is satisfied with the title of bishop; here 's a man of *glass legs*, which he has carefully covered with straw and list to protect them from breakage; next an owner of gold mines in Pennsylvania; a persecuted heir; a cheated creditor; a banished king; while each one will agree with you perfectly, and commiserate his *crazy* companions!

What is the world, but an immense lunatic asylum, restrained only by Providence and law? What are the *peculiarities* of each individual, but the ungrown elements of insanity? Wherein lies the difference in the mad conceits of totally insane persons, and the demented passions, and uncontrolled appetites of the votaries of ambition, of passion, of pleasure, or of lust? The lunatic is not without ground for his conceit that, he is *crazy* simply because crazy people are in the minority.

From these lunatic philosophers we went to the house of bright and happy faces—the Deaf and Dumb Asylum. In witnessing the regular exercises of these unfortunates, in school, no one can fail noticing the extreme willingness and animation of the whole face and expression; so intelligent, so varying, so full of thoughts that crowd up in vain efforts to pass into words. And then the trembling lip and fixed eye and breathless attention with which the scholars follow the mute instructions of their teacher; the eager turnings and unconscious gestures. All these make this

silent school the most interesting I ever visited. How interesting to teach such eager pupils! Progress may be slow, but it is sunshine all the way.

Their language is not one of words; it approaches more nearly to a communication of ideas; rapid, concise, and powerful must such a language be, almost equalling the intercourse of free spirits. But then to be robbed of all idea of sound, to be cut off from poetry, from music, from light and sparkling wit, is to take away half the world from them.

In the parlor of this institution is a portrait of a deceased member of the school, a young girl who had nearly completed her course here. A brighter face was never painted, and the expression of so much beauty, and loveliness, and intelligence forbidden to speak, makes the face, with the finger laid upon the lip indicating its loss and silence, at once painful and attractive. I never looked at any picture with half the emotion that moved me while contemplating that silent, expressive face. But she is *mute* now no longer.

As the Deaf and Dumb Asylum, is strictly the house of happy faces, so, too, is the Blind Asylum, the house of music. Robbing the mind of one sense, seems to brighten and quicken all the rest, and enjoyments lessened in their number and range seem to be made up for, by the zest with which the remainder are improved.

As we came to this house we heard the sound of music, and, upon entering, found the inmates with an organ and violins and flutes and tuneful voices, making no ordinary music. After this we were guided through the large house by a blind girl, who felt all the walls without touching them, and turned all the corners by instinct, and described localities by memory. She read, wrote and ciphered for us; allowed us to try to cheat her with coin when we purchased sundry little articles of their manufacture—laughed at our bad wit and bad grammar, and finally bid us good-bye with a grace that could not have been excelled could she have been able to *see* us as *gentlemen*.

The details of these institutions are familiar to all. Reading with raised letters; ciphering with *type;* writing with prickers that raise a burr upon the opposite side of the paper, &c. &c. are all well known to the community.

They work more for amusement than gain—making worsted work, flowers, baskets, brushes, brooms, &c., which are disposed of to visitors.

Although this institution is interesting to visit, yet it is more painful than either of the two I have mentioned, because the loss of sight always mars the countenance more or less—destroying its intelligent look.

The blind often go in a body "*to see*" the insane and sing to them. Such visits both parties enjoy very much, and their effect is very good. An incident at one of these meetings recently, gave rise to much merriment: a very gentlemanly officer of the Lunatic Asylum, politely lit his lantern and very carefully *lighted* these *blind* musicians down the Asylum stairs; for which trouble they laughed at him no little time—for the blind are great laughers.

T. K B.

THE POLAR-PLANT AGAIN.

I was much pleased with the notice of my communication concerning the "Polar-plant," by J. T. P. He attributes its polarity to the influence of *light*. It is true that light has an important influence throughout the vegetable kingdom. Light gives to the flower its color, to the leaf and stalk their freshness and vigor, and also attracts the whole plant. These effects the careful lady will discover in her parlor plants; the last one in particular, by their growing towards the window, if not frequently turned. The famous sunflower, not content with one kiss per day from her spouse, turns round her broad face to be kissed from morning till night. This effect, however, I have thought depended more upon a mere *physical* law—namely, the drying of the moisture from the sunny side of its stem, thereby contracting it, hence causing the flower to turn—than any *physiological* principle. But with these influences of light, and so many more that could be named, I have failed to see sufficient *cause* in light only to account for the *effect* of polarity.

As light pervades all space, and, by reflection comes from all points, how can it give a particular polarity to a plant? or if we attribute it to the sun's direct rays, how can that account for the effect when it travels round more than half the horizon, changing its points continually? If it is *only* light that gives polarity, why do not *all* plants show the same effect? Why should light attract one edge of a leaf and the same light repel the other edge, which must be the effect to produce polarity? It would give me pleasure to hear from J. T. P. again.

H. P. B.

VEVAY VINYARDS.

A colony of Swiss emigrants left Switzerland in the year 1801, and came to the valley of the west for the express purpose of cultivating the grape. They spent about two years near the Green River in Kentucky, and in the spring of 1801, they made a permanent settlement on the banks of the Ohio. The place of settlement was called Vevay, from a town of that name in Switzerland, from whence most of the colony came. Congress granted a certain tract of land to the colony, with certain privileges, giving them a long pay day, &c. &c., for the sake of encouraging the cultivation of the grape in this new country.

From the very first, all the time that could be spared from providing the necessaries of life, was devoted to the cultivation of the *vine*.

They brought their vines with them from Switzerland, but they proved of no avail. Either the climate, or the soil, or both, was found not to be congenial to foreign vines.

The Cape Grape was brought over from Kentucky, and was the only one that was cultivated with any success for at least thirty-five years. Within the last four years, the Catawba and Isabella have been introduced, and are found to be much superior to the Cape Grape. After much toil and experience, it has been found that none but native grapes can be cultivated with any success. The climate, the soil, and the kinds of grape that can be cultivated in this country, are much inferior to the climate, the soil, and the grapes in Switzerland, for productiveness.

In this country, twelve pounds of grapes are required to make a gallon of wine, while in the old country, ten pounds will make a gallon. Besides

one aker of land in Switzerland will yield, at least, three times the quantity of grapes, that one acre will yield in this country.

The consequence is, a competition in the manufacture of the pure juice of the grape cannot be maintained in this country. After a faithful trial of forty years, by those who were brought up vine-dressers, it has been found that the time can be more profitably employed in cultivating the necessaries of life. At one time there was probably twenty-five acres cultivated with the vine, and now there are not five acres under good cultivation. The reason given for abandoning the employment is, the uncertainty of the crop. The want of a ready market for the wine, and the great labor and care required, which can be more profitably devoted to other branches of husbandry.

Vevay, Ia. H. W.

CULTIVATION OF LAND.

"I rent one-sixteenth of an acre (eight roods) of land for £1 (or four dollars eighty-four cents) a year. I have had it seven years. I lay out yearly in manure seventy-five cents. I work it myself. It finds me employment in the summer from four in the morning till eight o'clock, when I go to work at my trade the remainder of the day. I have on it now twenty-four black, white, and red currant trees; twenty-four gooseberry trees, eighty raspberry trees in hedge-rows. My crop for 1845 is as follows: 500 heads of coleworts, 100 cabbages, eighty of coss lettuce, sixty cabbage lettuce, nine bushels of spring and winter spinach, thirty-eight quarts of shelled peas, and plenty left for seed; sixty cauliflowers, eighty purple brocoli, twenty-seven bushels of spring onions, four bushels of winter onions, six bushels of rhubarb, six pounds of Italian shalotes, six pecks of ash leaf potatoes, fifty-two quarts of gooseberries, twenty-three quarts of currants, thirty-seven quarts of raspberries, six pecks of turneps, seven bushels of scarlet beans, thirty-six bushels Jerusalem artichokes, forty Scotch kale, 200 heads of celery, twenty savays, and a quantity of curly pasley. I cultivate it as follows:

"I plant my cabbages in the fall, ten inches apart and twelve inches in the rows; in February I take up every other row. My dwarf peas I set twenty-eight inches in the rows, and sow the spinach between the rows; the Russia marrowfats I set thirty-two inches in the rows, and they grow ten feet high, bearing two crops; the cabbage stumps and raspberry canes, I cut into short pieces and dig them in; it assists the land as manure. I change the situation of my celery every year. This gets my land well dug over. Any person can call and see my land. My name is George Richardson, cutler. No. 1, High street, Kensington, near London."

I copied the above from an English newspaper which I lately received. I did not send it in order to boast over the American farmers, but to show the surface-scratchers what land will do, when properly attended to.

I received the first number of the Western Farmer and Gardener for 1846, and at page eight, on the sunflower, you do not state when the seed should be sown, nor when it will be ripe. I planted some last year early in March; it came up the first week in April, and the seed got ripe by August, but the birds took a great fancy to it, for they eat most of it.

At page four is an article on the potato-rot: I cannot understand anything about it. From all the accounts I have seen about it, *very dry weather* will cause the best potato sets to become rotten, but this disease seems to puzzle the most learned. Some people when they get their potatoes up, lay those out in the sun to get green, which they want to set for seed, because it is said that they will come up sooner than by any other method.

J. Bissell.

If many wise men would be as honest as our correspondent, they would also say about the potato-rot "I cannot understand anything about it." The London agricultural papers received at the Farmer and Gardener office, contain some account of the rot in Ireland. It is said that in some sections, not *one-sixth* of the crop remains sound. Professor Lindley explodes the idea that rot is the result of age in potatoes, by giving an instance of a new, seedling potato, planted in considerable quantities; and the whole crop rotted, leaving not even enough for seed. Learned men are equally divided as to the cause. One party say that the *atmosphere* causes it and *then* the fungus attacks the diseased plants; the other party says that the fungus is the only cause of the mischief. Very minute and thorough investigations are going on, under the direction of Government, and others have been projected by scientific associations. No one subject is attracting so much attention from learned *phytologists*, as this disease in the potato. We hope our friend will not withhold his communications for fear of taxing us with postage; we shall cheerfully pay it.—*Ed.*

BEES AND BEE-HIVES---ENQUIRIES.

Laporte, Jan. 29th, 1846.

I have received Nos. 1 and 2 of the Western Farmer and Gardener, and am pleased with its appearance, and believe it will be of much service to our agricultural community.

I see you invite your readers to communicate with you, ask questions, &c., &c.

Now as I am not able to impart much information, I will take the liberty of asking now and then a question.

I have understood that bees taken in the fall of the year, and put in a dark place, would not consume any of their honey during winter. That a hive of bees might be weighed in the fall, and after standing all winter in a dark place, would weigh the same in the Spring. Is such the fact? From the source I got my information, I am inclined to believe it true. I am also told by bee raisers that bees do not do well in a bee-house; that after three or four years they will cease to work, and run out after a few more years. I have not kept many since we have been in the state of Indiana, but intend to do something more at it hereafter.

I have a few hives made double, with caps. The object is, that they may be changed; that

which was the lower one this year be taken, and all its contents taken out and made clean; the one above it set on the board, and the empty one set on it, and then the cap set on that. By repeating this method every Spring we keep the old comb cleared out, and the bees do much better.

I make my hives of boards about half the size of the ordinary board hive, with a piece sawed out of the top three-fourths of an inch wide, close up to the inside of the hive; which affords ample room for the bees to pass up and down from the lower hive to the cap.

This plan for a hive I think preferable to the whole hive, for the reasons just stated—that it affords an opportunity of taking out the old comb.

I now think of trying the plan of a bee-house, notwithstanding the ill reports I have of them. I think I can overcome the difficulty which I suppose is the cause of bees not doing well in a house. I shall build a house and make it tight by lathing and plastering, leaving a place in the sides for the bees to pass out and in that may be shut tight in winter.

I shall have shelves to set the hives upon. I will have no other than the double hives, and then by strict attention to cleaning out the old comb each year, I think the bees will continue to do well from year to year.

There is certainly an advantage in keeping bees in a house, if you can make them work; you are not troubled with their swarming and frequently going off.

Please let me know what you think of my plan; or, if you are not prepared to answer it yourself, perhaps some of your readers will, and suggest some improvement, or some better plan.

Will not some one of our readers favor us and our correspondent with a reply? We are glad to have letters of enquiry; they will draw out much information, in time.—Ed.

WALL-TRAINED GOOSEBERRIES.

Mr. Editor:—Why will not the people enjoy the luxury of good gooseberries? The writer of this planted his gooseberries about eleven years ago, and has not failed to have a good crop every year, since they were large enough to bear. Even in years when the frost cut off all others in the neighborhood, our bushes were well filled. It was was thought that one season we obtained a half bushel from three bushes.

I attribute our success to our method of treating them, which is very simple. They were planted close to the wall of the house, on an eastern exposure, and trained up against the wall in the manner of a wall-fruit. Some of them have been trained at least seven feet high, and the old and decaying branches have, from time to time, been turned out. The variety is the large green, known as the English variety. They have manifestly been protected from the frost by the wall of the house, as we have never put anything over them. Now I imagine that every family might have an abundant supply by planting a few bushes, and thus training them against the wall of their dwellings, as *three* bushes have given us a bountiful supply.

S. K. S.

New Albany, In.

SELECTIONS.

CULTURE OF FLAX.

The following directions for the culture and proper management of the crop, were compiled by the Committee of the Society, for the promotion and growth of flax in Ireland. They have been carefully arranged from the mass of information obtained by the Society and their agriculturists, during their four years' experience, in the improved system of management. By this system, Irish flax has been produced, which brought, in some cases, the high prices of £90 to £140 ($450 to $700,) per ton. Messrs. Abraham Bell and Son, extensive shipping merchants of this city, [N. York] have deemed them of so much importance, that they have had them extensively published, and we transfer the same to our columns, esteeming it the most valuable article we have ever met on the subject. If the Flax rotting and dressing machines spoken of on page 331 of this number, perform all that is anticipated, the United States will be able to grow large quantities of it for the foreign market, which will be adding another important item to our agricultural exports, and greatly increase the wealth of the farming population. Formerly, considerable quantities of flax were grown in this state and New England, but since the introduction of cheap cotton fabrics as a substitute for linen, its culture has been almost entirely neglected. It is still grown extensively in Pennsylvania, Ohio, and parts of Kentucky.—*Am. Agriculturist.*

Soil and Rotation.—By attention and careful cultivation, good flax may be grown on various soils; but some are much better adapted for it than others. The best is a sound, dry, deep loam, with a clay subsoil. It is very desirable that the land should be properly drained, and subsoiled; as, when it is saturated with either underground or surface water, good flax cannot be expected.

Without method, there cannot be success—different soils require a difference of rotation. In the best soils of Flanders, flax is grown in the third year of a seven-course rotation, or the fifth of a ten-course rotation. It is not considered generally advisable to grow flax more frequently than once in ten years. In Belgium, it invariably follows a corn crop—generally oats; and, in this country, where oats is such a principal crop, the same system might be profitably pursued; but it must be understood, that it is only after oats following a green crop or old lea, and never after two or three succeeding crops of oats, which bad practice still prevails in some districts. It is a very general error among farmers, to consider it necessary that flax should follow a potato crop. Except on very poor soils, a better crop will be produced after grain, and the double benefit of the grain and flax secured. If old lea be broken up, and potatoes planted, a very fine crop of flax may be obtained in the following year.

Rotation of Crops for Flax.—The following rotation, which would bring flax once in ten years, has been proposed:—First year, potatoes; second, barley, laid down with grasses; third year, cut for soiling; fourth year, pasture; fifth year, flax; or the one-half might be better in flax, the other in oats—so that, with the return of the rotation, which would be in five years, the flax could be put on the ground which, in the last rotatory course, was under corn, throwing a range of ten years

between the flax crops coming into the same ground.

A gentleman of much practical knowledge, recommends the following, as being the most profitable:—1. Oats, after grass and clover. 2. Flax, pulled in August; then plowed and harrowed in two cwt. guano and two cwt. gypsum; then sown with rape. 3. Potatoes and turnips, well manured. 4. Wheat, and sown in spring, with clover and rye-grass. 5. Hay and clover. 6. Grazing. 7. Oats. 8. Flax and winter vetches; guano, as before mentioned. 9. Turnips, well manured. 10. Barley, sown with rye-grass and clover. 11. Clover and hay. 12. Grazing. 13. Oats.

Preparation of the Soil.—One of the points of the greatest importance in the culture of flax, is by thorough-draining, and by careful and repeated cleansing of the land from weeds, to render it of the finest, deepest, and cleanest nature. This will make room for the roots to penetrate, which they will often do to a depth equal to one-half the length of the stem above ground.

After wheat, one plowing may be sufficient on light friable loam, but two are better; and, on stiff soils three are advisable—one in autumn, and two in spring, so as to be ready for sowing in the first or second week of April. Much will, of course, depend on the nature of the soil, and the knowledge and experience of the farmer. The land should be so drained and subsoiled, that it can be sown in flats, which will give more evenly, and much better crops. But, until the system of thorough draining be general, it will be necessary, after oats, to plow early in autumn. Throw the land into ridges, that it may receive the frost and air; and make surface drains, to carry off the rains of winter. Plow and harrow very early in spring; and again, a month after, to bring the ground into good tilth, and clean it thoroughly from weeds and roots. Following the last harrowing, it is necessary to roll, to give an even surface, and consolidate the land, breaking this up again with a short-toothed or seed harrow, ere sowing.

Sowing.—The seed best adapted for the generality of soils is Riga, although Dutch has been used in many districts of country, for a series of years, with perfect success. American seed does not generally suit well, as it is apt to produce a coarse, branchy stem. If used, it should only be on deep, loamy soils. Select plump, shining, heavy seed, of the best brands, from a respectable merchant. Sift it clear of all the seeds of weeds, which will save a great deal of after trouble, when the crop is growing. This may be done by fanners, and through a wire sieve, twelve bars to the inch. Home-saved seed, grown from foreign, has been used in many cases with success. It is suggested, that a small portion of the crop may be allowed to stand, until the seed be fully ripe, and then pulled, and the seed preserved for sowing; but the seed saved from it in the following year, should only be used for feeding, or sold for the oil-mills. The proportion of seed may be stated at three-and-a-half imperial bushels to the Irish or Plantation acre; and so on, in proportion, to the Scotch or Cunningham, and the English or Statute measure. It is better to sow too thick than too thin; as, with thick sowing, the stem grows tall and straight, with only one or two seed capsules at the top, and the fibre is found greatly superior in fineness and length, to that produced from thin sown flax, which grows coarse, and branches out, producing much seed, but a very inferior quality of fibre. The ground being pulverized and well cleaned, roll and sow. After sowing, cover it with a seed-harrow, going twice over it—once up and down, and once across, or anglewise; as this makes it more equally spread, and avoids the small drills made by the teeth of the harrow. Finish with the roller, which will leave the seed covered about an inch, the proper depth. The ridges should be very little raised in the centre, when the ground is ready for the seed, otherwise the crop will not ripen evenly; and when land is properly drained, there should be no ridges. The sowing of clover and grass-seeds along with the flax is not advised, when it can be conveniently avoided, as these plants always injure the root-ends of the flax. But carrots may be sown in suitable soils in drills, so that the person pulling the flax may step over the rows, which may be afterward hoed and cleaned, and should have some liquid manure. A stolen crop of rape or winter vetches may be taken after the flax. Rolling the ground after sowing, is very advisable, care being taken not to roll when the ground is so wet that the earth adheres to the roller.

Weeding.—If care has been paid to cleaning the seed and the soil, few weeds will appear; but if there be any, they must be carefully pulled. It is done in Belgium by women and children, who, with coarse clothes around their knees, creep on all fours. This injures the young plant less than walking over it—which, if done, should be by persons whose shoes are not filled with nails. They should work also facing the wind, so that the plants, laid flat by the pressure, may be blown up again, or thus be assisted to regain their upright position. The tender plant pressed one way soon recovers; but if twisted or flattened by careless weeders, it seldom rises again.

Pulling.—The time when flax should be pulled, is a point of much nicety to determine. The fibre is in the best state before the seed is quite ripe. If pulled too soon, although the fibre is fine, the great waste in scutching and hackling renders it unprofitable; and, if pulled too late, the additional yield does not compensate for the coarseness of the fibre. It may be stated, that the best time for pulling is when the seeds are beginning to change from a green to a pale brown color, and the stalk to become yellow for about two-thirds of its height from the ground. When any of the crop is lying, and suffering from wet, it should be pulled as soon as possible, and kept by itself. So long as the ground is undrained, and imperfectly levelled before sowing, the flax will be found of different lengths. In such case, pull each length separately, and steep in separate pools, or keep it separate in the same pool. If the ground has been thoroughly drained, and laid out evenly, the flax will be all of the same length. It is most essential to take time, and care to keep the flax even, like a brush, at the root ends. This increases the value to the spinner, and of course, to the grower, who will be amply repaid by an additional price for his extra trouble. Let the handfulls of pulled flax he laid across each other diagonally, to be ready for the

Rippling—Which should be carried on at the same time, and in the same field with the pulling. If the only advantage to be derived from rippling

was the comparative ease with which rippled flax is handled, the practice ought always to be adopted. But besides this, the seed is a most valuable part of the crop, being worth, if sold for the oil-mill, £3 per acre; and if used for the feeding stock, of all kinds, £4 per acre. The apparatus is very simple. The ripple consists of a row of iron teeth screwed into a block of wood. This can be procured in Belfast, or may be made by any handy blacksmith.* It is to be taken to the field where the flax is being pulled, and screwed down to the centre of a nine-feet plank, resting on two stools. The ripplers may either stand or sit astride, at opposite ends. They should be at such a distance from the comb as to permit their striking it properly and alternately. A winnowing sheet must be placed under them, to receive the bolls as they are rippled off; and then they are ready to receive the flax just pulled—the handfulls being placed diagonally, and bound up in a sheaf. The sheaf is laid down at the right hand of the rippler, and untied. He takes a handful with one hand, about six inches from the root, and a little nearer the top with the other. He spreads the top of the handful like a fan, draws the one-half of it through the comb, and the other half past the side; and by a half turn of the wrist, the same operation is repeated with the rest of the bunch. Thus the flax can be rippled without being passed more than once through the comb. He then lays the handfuls down at his left side, each handful crossing the other, when the sheaf should be carefully tied up and removed. The object of crossing the handfuls so carefully after rippling, when tying up the beets for the steep, is that they part freely from each other when they are taken to spread out on the grass, and not interlock and be put out of their even order, as would otherwise be the case. If the weather be dry, the bolls should be kept in the field, spread on winnow-cloths, or other contrivance for drying; and if turned from time to time, they will win. Passing the bolls first through a coarse riddle, and afterward through fanners, to remove straws and leaves, will facilitate the drying. If the weather is moist, they should be taken in-doors, and spread out thinly and evenly on a barn floor, or a loft, leaving windows and doors open, to allow a thorough current of air; and turned twice a day. When nearly dry, they may be taken to a corn-kiln (taking care not to raise it above summer heat,) and carefully turned, until no moisture remains. By the above plan of slow drying, the seed has time to imbibe all the juices that remain in the husk, and become perfectly ripe. If it be taken at once from the field, and dried hurriedly on the kiln, these juices will be burned up, and the seed will become shrivelled and parched, little nutritious matter remaining. In fine seasons, the bolls should always be dried in the open air, the seed threshed out, and the heaviest and plumpest used for sowing or crushing. The light seeds and chaff form most wholesome and nutritious feeding for cattle. Flax ought not to be allowed to stand in the field if possible even the second day; it should be rippled as soon as pulled, and carried to the water as soon as possible, that it may not harden.

WATERING.—This process requires the greatest care and attention. River water is the best. If spring water has to be used, let the pond be filled some weeks, or months, if possible, before the flax is put in, that the sun and air may soften the water. That containing iron, or other mineral substances, should never be used. If water can be had, it need not be let into the pond sooner than the day before the flax is to be steeped. Place the flax in the pool, in one layer, somewhat sloped, and in regular rows, with the root end uppermost. Cover with moss sods, or tough old lea sods, laid perfectly close, the sheer of each fitted to the other. Before putting on the sods, a layer of rushes or rag-weeds is recommended to be placed on the flax, especially in new ponds. Thus covered, it never sinks to the bottom, nor is it affected by air or light. A small stream of water allowed to run through a pool has been found to improve its color. It will be sufficiently steeped, as an average time, from eight to fourteen days, according to the heat of the weather and the nature of the water. Every grower should learn to know when the flax has had enough of the water, as a few hours too much may injure it. It is, however, much more frequently under-watered than over-watered. The best test is the following:—Try some stalks of average thickness, by breaking the shove, or woody part, in two places, about six or eight inches apart, at the middle of the stalk; catch the broken bit of wood, and if it will pull freely out, downward, for that length, without breaking or tearing the fibre, with none of the fibre adhering to it, it is ready to take out. Make this trial every six hours, after fermentation subsides, for sometimes the change is rapid. Never lift the flax roughly from the pool, with forks or grapes, but have it carefully handed out on the bank, by men standing in the water. Spread on the same day it is taken out, unless it be raining heavily; light rain does little harm. If it cannot be spread, let it be set on end, or separated into small parcels, to prevent it heating in the heap. It is advantageous to let the flax drain for a few hours after being taken from the pool, by placing the bundles on their ends, close together, or on the flat, with a slope.

SPREADING.—Select, when possible, clean, short, thick pasture-ground for this operation; and mow down and remove any weeds that rise above the surface of the sward. Lay the flax evenly on the grass, and spread thin and very equally. If the directions under the heat of rippling, have been attended to, the handfuls will come readily asunder without entangling. Turn it two or three times while on the grass (with a rod about eight feet in length, and an inch and a half in diameter,) that it may not become of different shades, by the unequal action of the sun, which is often the case through inattention to this point. Turn it when there is a prospect of rain, that the flax may be beaten down a little, and thus prevented from being blown away.

LIFTING.—A good test of its being ready to lift, is to rub a few stalks from the top to the botton; and, when the wood breaks easily, and separates from the fibre, leaving it sound, it has had enough of the grass. Also, when one stalk in fifty is perceived to form *a bow and string*, from the fibre

* *The best ripples are made of half-inch square rods of iron, placed with the angles of iron next the ripples. Three-sixteenths of an inch asunder at the bottom, half an inch at the top, and eighteen inches long, to allow a sufficient spring, and save much breaking of flax.*

contracting and separating from the woody stalk. But the most certain way is to prove a small quantity with the hand-break, or in a flax-mill. In lifting, keep the lengths strait and the ends even, otherwise great loss will occur in the rolling and scutching. Tie it up in small bundles; and if not taken soon to be scutched, it will be much improved by being put up in small stacks, loosely built, with stones or brambles in the bottom, to keep it dry, and allow a free circulation of air. Stacks built on pillars would be the best.

Drying—By fire, is *always pernicious*. If properly steeped and grassed, no such drying is necessary; but to make it ready for breaking and scutching, exposure to the sun is sufficient. In some districts, it is put to dry on *kilns*, in a damp state, and is absolutely burnt before it is dry, and the rich oily property of the flax is always greatly impaired. On this point, the Society can scarcely speak too strongly, as the flax is either destroyed or rendered not worth one-half of what it would be, if properly dried.

Breaking or Scutching—If done by hand, should be done on the Belgian system, which is much less wasteful than that practiced in Ireland. If by milling, the farmer will do well to select those mills in which the improved machinery has been introduced. The Society would also recommend that the farmer should endeavor to have his flax scutched by a mill-owner who pays his men by the day, and not by the stone, even if it should cost him higher in proportion—the system of paying the scutchers by the stone, rendering them more anxious to do a large quantity in the day, than to produce a good yield from the straw.

The Courtrai System.—This is the universal mode in the district from which the finest flax we receive is brought. As soon as pulled, the flax is stooked without binding it. The handfuls are set up, resting against each other, the root-ends spread out, and the top ends joining like the letter A, forming stooking about eight feet long, and a short strap keeping the ends firm. In this way, it will resist wind and rain well, and dry fast. In six or eight days it may be stacked in the field; the seed being taken off at leisure, in winter; the flax to be steeped the following May—a system which possesses the advantages of affording the farmer the best season of the year for steeping and grassing, and a time of comparative leisure, when his attention is not called to the harvesting of other important crops. It has, in many cases, when tried in this country, proved highly successful; although in others it has failed, from want of experience, perhaps in watering and grassing it. The treatment in this way has made the flax, in some cases, worth two or three shillings per stone more, than part of the same crop steeped green. It is recommended that trials of this system should be made, in the first instance, on a small scale.

To avoid exhausting the Land by growing Flax.—It has always been urged against flax culture that it exhausted the soil; but this is not necessarily the case. If the seed be saved, and cattle fed upon the bolls, a valuable addition will be made to the manure heap, as, perhaps, the richest manure is produced by this kind of food. the putrescent water from the flax pools should be carefully preserved, and either used as a top-dressing for grass, or mixed with the weeds, and other refuse of the crop, in a heap to ferment. By these means almost all the matter abstracted from the soil by the flax crop, would be returned in the shape of manure—the fibre being supplied by the atmosphere alone.

Flax Society's Office, Belfast, 1st January, 1845.

From the N. Y. Farmer and Mechanic.

CULTURE AND MANUFACTURE OF FLAX.

Mr. Meigs put the following questions to Mr. Billings, from Missouri.

1st. What kind of soil shall I choose? and what manure?

Where there is most lime. On our best Prairie land we add twenty bushels of lime to an acre—the lime should be first slacked. Use also good, well decomposed manure.

2d. When and how often and how deep shall I plow it?

Plow as soon as the crop is off the field in the fall—plow deep, and if necessary use the subsoil plow, so as to plow twelve inches deep. Then in the Spring plow four or five inches deep.

3d. When and how shall I sow seed—broadcast or in drills—and how many bushels to each acre?

As soon as the land is plowed in the Spring, harrow it lightly, and sow two and a half, to three bushels of seed—then harrow well.

4th. How shall I keep the crop clean?

The crops keep clean of weeds by the close thick growth of flax.

5th. How shall I gather the flax and at what time?

Cut the flax with a cradle having a scythe from eighteen to twenty-two inches in length. Cut as soon as the blossoms of the flax begin to fall.

6th. How shall I secure the crop when gathered? what quantity in a bundle?

Let the flax lie on the ground until it wilts. In fair weather it may lie there thirty-six hours. Wet weather must be avoided at this time, if possible. Bind up as much flax as a wisp of flax will bind in one bundle. Shock it on the field so as to prevent wet from getting into it. Do not stack it. Leave it in the shocks for five or six days. When the weather is favorable, and it is about as dry as you would have hay or oats, then house it.

7th. How long can I keep it before it is sent to market?

Fifty years. The flax is improved by keeping it a year. The gluten which is in it, then dissolves more readily when you come to rot it.

8th. Is it worth my while to rot it on my own farm?

No; you cannot make so good a profit by doing it.

9th. Is it worth my while to have a machine for dressing the crop?

If you can raise two hundred acres of flax, then you can afford to rot and dress it. One hundred acres will not pay a sufficient profit.

10th. What is the average crop of flax in the United States per acre?

About two hundred pounds to the acre if you let it all go to seed, but four hundred if you gather it in the blossom. Ireland averages five hundred and fifty pounds an acre on one hundred thousand acres.

11th. Do you know how much it will cost to raise it per acre?

Twelve dollars an acre when housed.

12th. What is the cost of dressing it? How much can one of your dressing machines prepare in a day?

Three cents a pound, from the stack to the press. One of my dressing machines with seven men, will dress in one day six hundred pounds of flax, and so much less tow is made by it, that it saves twenty per cent. of the flax by my operation. And the same process answers for hemp. Flax when rotted in water heated to ninety degrees of Fahrenheit, is done in three or four days. In raising flax, a part of a field should be sowed thin for the seed. Common Flemish and French dressed flax imported into England for forty years past, brings them from four to eight hundred dollars a ton. This difference of value is owing to the difference of qualities, which are assorted.

Mr. WAKEMAN. Can flax and hemp be grown for a series of years on the same ground, or is a rotation necessary?

Mr. BILLINGS. I have known hemp grown on the same field perfectly well for twenty years in succession. The hemp crop is from seven hundred to nine hundred pounds an acre. I add lime to land for flax crop, but not for hemp. When flax is not allowed to go to seed, it does not exhaust the soil one half as much. It exhausts about as much as the wheat crop. Our corn and wheat in Missouri certainly exhaust our soil. We have already found the necessity of deep plowing and subsoiling the land. It is better and cheaper by four to one, to cradle flax than to pull it by the hand in the old way. We do not consider the rotting and dressing flax an unhealthy business.

Dr. UNDERHILL, of Crown Point.—It is exceedingly important to establish the culture and manufacture of flax in our country. For the last twenty-five years Ireland has used the water-rotting process—they pulled their flax before it went to seed. They have depended on the U. States for their seed, for the last half century. We supplied almost all their flax seed for sowing. Dew-rotting is apt to weaken the fibre and render it less fine. They used to put their flax in still water, where it rotted in from seventeen to thirty days. Dew-rotting requires some three months. Some lay the flax on the snow and let it remain until Spring. A very bad plan. The flax is liable to great damage from cattle getting among it—it is very unequally rotted and liable to become dirty—it loses its softness and fineness of fibre. The operation of cradling flax is an important one; you get rid of the roots of the plant which are injurious in the dressing of the flax.—*Farmer's Club.*

FARMING COMPARED WITH OTHER OCCUPATIONS.

People of industrious habits and good constitutions can get a good living in this country by following any mechanic trade or by farming. A little capital is very convenient to begin with—but many have not patience to serve first and act as masters afterwards. They commence business on their own hook, and having nothing to lose, in case of misfortune they are broken up and discouraged.

Young men in Boston will act the clerk in a store or retail shop till "of age." They have now one or two handsome suits of clothes and nothing else but a number of *bad habits* that never keep the rain or cold off; and a number of bad companions. They speak in contemptuous terms of an offer of $500 a year to serve longer as clerk. No, they must open shop on borrowed capital; indorse for each other at the banks, and soon come out as the man did who tried to live by his wit—"fail for want of stock."

But they have learned to smoke tobacco and drink poison without losing life at once; to go to theatres and to despise what they call small concerns. It is now neck or nothing, they become very hot politicians; try for promotion to sinecure offices, and make more disturbance than twice their number of honest men who steadily mind their own business.

Young farmers without capital should work for old farmers on wages till they have laid by something to purchase land with, old or new. We are often told that a man cannot buy a farm in any of our old settlements and pay for it with the proceeds of the farm. But this is not so. Many young men from the country have come into the vicinity of Boston with nothing but their hands to help them—coming on foot for want of means to ride at the cheapest rate.

These men have *by farming* acquired a very handsome property; but they did not set up for themselves till they had first learned of older farmers and marketers how to manage, *and had laid by two or three year's wages.* These were not squandered as soon as received, for the recipients had no time and no occasion to spend them. One or two hundred were put out on interest each year, and with this accumulated fund, coupled with a character for steady habits and skill in business, small lots of land have been purchased near the city. Part of the purchase money was paid down and a mortgage given for the balance.

But mark, the mortgager is not in the condition of a tenant in Europe; for every tree he sets, and every improvement he makes on the land goes into his own pocket. There is no landlord to reap his earnings if he is prudent. The land is his own, and only stands bound for his good behavior. We have numerous instances of men of this class who have acquired fifteen to twenty thousand dollars *by farming.*

As to maintaining a family, the farmer has every advantage over other classes of men. It costs a prudent farmer not a farthing to bring up a large family, half boys and half girls, in case they enjoy the usual health of prudent families in the country.

The country parson and doctor and lawyer stand on a totally different footing in regard to the expense of rearing and maintaining families. These men can rarely devote time enough to farm-labor to set their children a perfect example. They are often called away from home, and then the boys are idle and vicious. Modern clergymen must have extremely delicate hands or the ladies will not relish their preaching:—and why should not the sons' hands be as white as the father's? Their doctor must lie late in the morning for he was out most of the night:—can you expect his sons to rise early? The lawyer spends weeks at court and cannot superintend his family or his workmen as the farmer can. He is obliged to live as the judges and as all the great folks do while at court, and he brings home expensive habits. His family catch the idea, and his boys have not a

steady example before them. They are self-taught if taught at all.

Even the laboring mechanic has many disadvantages, on rearing a family, compared with the laboring farmer. Children cannot aid him in his shop. The blacksmith, carpenter, joiner, mason. and painter, have no business *for very small hands.* —But the farmer—just look at the means he has to keep every finger employed, small and great.

What backs can bend so readily to pick up the apples, the potatoes and corn as the backs of his younkers, who will do much in a day when attended by a parent? What horseman so good to guide dobbin among the drills of corn and potatoes as the lad of seven years? At ten he will drive an ox team, use an axe, a hoe, a rake, and a fork with admirable skill. In short there are but few branches of farm labor that cannot be greatly advanced by the assistance of well-bred children.

Three years ago we saw a man plowing in Concord with oxen and a horse. His only assistant was a little son four years of age. He rode the horse and guided the team. He was so small that his prudent father, Mr. — Tuttle, a very good farmer, lashed him fast to the saddle, and here he caught the healthy breezes of summer, and a good appetite for plain and wholesome food; while he was kept away from the idle and mischievous company of village loungers.

If any man can bring up a family well, it is the home farmer.—And if any can command health it is the farmer in his airy fields and sunny plains.—*Mass. Plowman.*

This may be true in Boston. But white hands are as yet a rarity among western clergymen. We know some good preachers who would make *brother* Buckminster puff in a harvest-field, or mauling rails, albeit the said editor is not used to *puffing.*—*Ia. Far. and Gard.*

The annexed article (says the Providence Transcript, from which we copy,) "is from one of our most experienced and intelligent agriculturalists. Of his successful practice we can attest, as we never saw finer butter, not even in Philadelphia, than we have eaten at his hospitable mansion."

BUTTER MAKING.

Milk Apartments, &c.—The milk cellar should be deep, well ventilated, and dry: the bottom covered with stone flagging. Bricks will absorb milk, and other liquids that may fall upon them; and will soon contract mildew, the smell of which, like the odor of cheese, vegetables, fish, or foul air of any kind, will be imparted to the cream and butter. Over this cellar should stand the dairy room, with shelves to set milk upon in cool weather; the cellar to be used during the extremes of heat and cold. The temperature of the milk apartment, if possible, should never be above 65° nor below 45°. Set kettles should not stand in the dairy-room; neither should churning, cheese-making, nor cleansing milk-vessels be done there, but in a convenient room near by.

Cream may be kept good much longer, if it be kept in a white oak vessel, with a tight cover, and a faucet or tap near the bottom, to draw off the milk when it settles, before the customary daily stirring. The quality of the butter is much improved by this management. If the milk be not drawn off, and it be churned with the cream, the butter will be longer in coming, and it will show specks of sour curd, taste like cheese, and will soon become rancid. Butter will come quickly at all seasons of the year, if the cream be of a temperature of from 60° to 75°; to this end, use hot water in winter, and ice in summer; *but never add either to the cream, in or out of the churn.*

Salt.—Pure salt chrystalizes into perfect cubes. All other forms of chrystalization found in common salt, arise from impurities; those of a needle shape in Liverpool bag, or blown salt, indicate the presence of lime, magnesia, &c. One great cause of the failure in making good butter, may be traced to the use of impure salt. Rock salt, and the large lumps of Turk's Island, washed, dried, and finely pulverized, are preferable to all other kinds, being highly preservative, and hardening the butter, so that it will be sooner ready to work over in warm weather. The Liverpool bag or blown salt, the Salina salt, in small bags, from N. York, and the fine part of every kind of imported salt, contain a great portion of impurity. Less than one ounce of pure salt, is sufficient for a pound of butter; (many put in but half an ounce;) in all cases leave out sugar and saltpetre.

In the manufacture of cheese, a preference is sometimes given to Liverpool bag or blown salt. This contains salts of lime and magnesia, which attract moisture from the air, and have the desirable effect of softening the cheese; and the pungent bitter taste which they impart to it, is an improvement, in the estimation of some.

General Remarks.—The cream should not rise more than 36 hours; it should be sweet when taken off, and sweet when churned; yet there is a degree of maturity to be acquired by keeping.

The kegs, for packing butter, should be made of white oak, bilging in the form of casks, for the more perfect exclusion of air, and convenience of transportation. If the butter is not to be sent to a warm climate, or a foreign market, let the bilging kegs have moveable covers, to accommodate inspection; they should be soaked in strong brine, made also of pure salt, in order that justice may be done to the purchasers in tare, and to save the butter from being spoiled for one or two inches deep all around, from its contact with dry wood. In case the wood is anything but white oak, there is danger of its giving an unpleasant taste to the whole. For the convenience of families, the size should vary from twenty-five to fifty pounds. A keg of butter is exposed to the air for a long time, while on broach in a small family, and the bottom, in consequence, becomes rancid.

The consumer will cheerfully pay an extra price for one hundred pounds of butter, packed in four kegs instead of one. No salt should be put on the sides, bottom, or between the layers. If the kegs are made with covers, put a cloth over the top, and cover that with pure fine salt. Keep a cloth wet with strong brine over the butter, while the keg is filling, to exclude the air. The practice of washing butter is not approved of in Europe; it destroys its fragrance and sweetness by dissolving the sugar of milk, which it is said is always present in good butter. It is practised in Holland, when the article is designed for exportation to India; then the operation is usually performed with cold strong limpid brine made of pure

salt, and pure water; water that has lime in it will not answer, as the lime is readily absorbed by the butter.

To exclude the air more effectually during the process of putting down, let a little melted sweet butter be run into the cavity, where the bottom head and staves come together, then after each layer is completed, let the dairy-woman pass her finger round so as to press the butter hard and close against the side.

Steam Power and Horse Power.—Mr. Andrews, of Kirkham Lodge, said: I calculate a horse cannot last on an average above fifteen years, while an engine with moderate care will last one hundred years. Horses, whether working or not, are expensive in keeping; but when an engine stands still, it is costing nothing. A four-horse engine will do more work than eight horses—I mean yoked at the same time—for they never are all of one mind for pulling together. I recollect once employing eighteen horses to do some work, that is, six at a time, in three sets, relieving each other as they required it; but it proved tiring work. I put up a six-horse engine and it did the same work well. Ten per cent. upon the first cost will keep an engine in repair which works every day for twenty years; but the cost of those used for farming purposes, as has been stated, may be about seven per cent.—[Gar. Chron.

Tallow and Train-Oil, as a Salve for Sheep. In the Highland and Agricultural Society's Transactions for 1844, pages 271–273, an article appeared, recommending the use of tallow and train-oil, in equal parts, as a salve for sheep; and, in reference to that article, a gentleman in Argyleshire, skilled in the management of sheep, writes as follows, under date the 9th July last: "The salve I used for my sheep last autumn (viz. one half tallow to an equal proportion of train oil,) has, in every respect, answered the description given of it in the Society's Transactions; and one of my tenants whom, with some persuasion, I got to smear thirty of his flock with that mixture, admits that they are in better condition than any of the others; that the wool will weigh as heavy as that done with tar and butter; and that he will get the price of white wool for it. The expense last year was a little greater than tar and butter, as I paid 1s. 6d. a pint for oil, and 6d. a pound for tallow; but this year I shall get oil for 1s. a pint, and if a quantity is required, at probably a lower price.—[Edinburgh Jour. of Agriculture.

Delirium.—"Never was drunk but once in my life," said a chap once in my hearing, "and I never mean to be again. The street seemed to be very steep and I lifted my feet at every step as if I was getting up stairs. Several cart-wheels were making revolutions in my brains, and at one time I fancied my head was a large carving and turning establishment, the lathes of which I was keeping in motion with my own feet. I couldn't conceive what was the reason the town had turned into such an enormous hill; and what made it worse was, that it seemed all the time to be growing higher and threatened to pitch over on me. Stop, stop, said I, and I'll head this old hill yet, or at least, it shan't head me. I turned round to go down and get at the bottom; tell me! if the town did n't turn right round with me, heading me all the time, and presenting the high bluff in front of me. Well sure enough, the ground flew up and struck me on the forehead, and as soon as the stars cleared away, I commenced climbing with my hands and knees. The next thing I saw was a big brick house coming full split round a corner and I believe it run right over me, for I do n't remember any more.—*Picayune.*

An Easy Method to Clean Ice from Stone Steps and from Side-walks.—As the season of the year has arrived when ice upon door-steps, in house-yards, and on side-walks, is troublesome and dangerous to walk upon, I will state for information a simple, cheap, and effectual means of melting the ice at once, even while the cold is below the temperature of zero. Take a small quantity of fine salt and sprinkle over the ice and it will immediately begin to liquify and in a short time will entirely disappear. The progress is more effectual than it would be to scatter burning coals upon the surface of the ice. The salt when it comes in contact with the ice, begins to decrepitate, and a crackling noise is made. Pumps in which the water is frozen hard, can be cleared of ice in a short time by throwing into the pump a quantity of fine salt.—*Jour. of Com.*

Cure for the Whooping Cough.—A teaspoonful of castor oil to a teaspoon-ful of molasses; a tea-spoonful of the mixture to be given whenever the cough is troublesome. It will afford relief at once, and in a few days it effects a cure. The same medicine relieves the croup, however violent the attack.—*Nat. Intel.*

CONTENTS OF THIS NUMBER.

Help on the Work, - - - - - - 49
Book-farming and a Portrait, - - - 50
Back Volumes of the Western Farmer and Gardener, Guano in England, Enquiries, Take Care of your Shoes, - - - 51
Spirit of Agricultural Journals:—Nursery of M. Jamin, at Paris, Quenouitte or pyramidal form, How Plants receive their Carbon, How to manage a Stud-horse, In-and-in-Breeding, To make Fruit Trees thrifty, Gapes in Chickens, Level Cultivation of Corn, Windgalls, New Dahlia, Cultivation of Plants in Pots, - - - - - 52
Swaar Apple, Review of Volume one, 53, 54
Letters of a Cosmopolite, No. 2, - - 55
Polar Plant, Vevay Vinyards, - - - 56
Cultivation of Land, Bees and Beehives—Enquiries, - - - - - - 57
Wall-trained Gooseberries, - - - 58
Culture of Flax, - - - - 58, 59 60
Culture and Management of Flax, - - 61
Farming Compared with Other Occupations, 62
Butter-making, - - - - - - 63
Miscellaneous, - - - - - - - 64

TERMS.—*The* Farmer and Gardener *is published* semi-monthly, *each number containing Sixteen royal octavo pages, at* one dollar *per annum per copy;* seventy-five cents *per copy for Four and less than Ten copies; and* fifty cents *for Ten or more copies to the same Post Office. All subscriptions* in advance.